



REACHING FOR THE CLOUDS

BUILDING A DIGITAL SINGLE MARKET FOR CLOUD SERVICES

As the GN4-2 project came to a close in December 2018, it is a good time to reflect on the accomplishments the GÉANT Cloud Team has achieved to date, and anticipate many more great things coming up in GN4-3.

It is sometimes hard to believe that in just a few short years, GÉANT succeeded in creating Europe's very first Digital Single Market for cloud services. Considering the myriad of national regulations, tender policies, supplier and reseller networks and all the native spoken languages involved – this is no small feat. Under the management of Andres Steijaert from SURFnet, the Cloud Team built a strong foundation, positioning GÉANT and the NREs as trusted delivery gateways to this ecosystem and supporting widespread adoption of cloud services in a predictable, affordable and transparent manner.

Agreements and Developments

These efforts, which are well aligned with the goals of the overall European Open Science Cloud, bore fruit to an impressive mass of deployments. Below are just some of the facts and figures:

- Two pan-European tenders, for IaaS and video conferencing.
- 29 service offerings for IaaS, video conferencing, file storage and real-time communications services.
- Closed special terms and conditions to suit the needs of research and education institutions, including SAML2 support, private peering with GÉANT to reduce data transport charges, special discounts and more.
- Development of an open standard WebRTC web conferencing.

In addition, development teams completed two underlying cloud technology components with Integrations that allow OpenStack users to authenticate to Kubernetes and move data to AWS.

Delivery, Deployment and Promotion

The key markers for the success of this cloud activity is how these cloud services are being adopted by the community. To this end, delivery frameworks reached an all-time high, with actual systems deployed in operational production environments:

- IaaS services consumed by 294 institutions in 18 countries throughout Europe.
- 140 specialists in 34 NREs are supporting application service delivery.
- Over 6,600 attendees at 135 activity-organised events.
- 47 weekly VC forums for NREN cloud managers in 2018.
- 40 institutional representatives attended a two-day cloud deployment workshop in September 2018 on AWS and Microsoft Azure.
- 50 attendees at a machine learning and Artificial Intelligence workshop by Google at TNC18.
- 19 participants attended a cloud adoption workshop at EaPEC2018 for the NREN and R&E community in Eastern Europe.

Toward Pan-European Open Science

One of the most exciting developments to emerge alongside the Cloud Team's achievements is the complementary OCRE (Open Clouds for Research

Environments) consortium. OCRE combines the expertise of four partners: CERN, GÉANT, RHEA and Trust-IT. The consortium is led by GÉANT and charged with the task of facilitating access to commercial digital services and drive the adoption and use of these services. Essential for interdisciplinary research, these services include:

- Commodity type commercial digital services, such as: Infrastructure as a Service (IaaS) and Platform as a Service (PaaS), providing compute, storage, network and related services
- Software as a Service (SaaS), such as file storage (sync and share), online collaboration, simulation and virtualisation tools
- Secure Earth Observation commercial services, which make use of the Copernicus Data and Information Access Services (DIAS).

OCRE will run for three years: 2019 – 2021.

Next Steps

These achievements are due to the hard work and teamwork of many people from many countries. And while the achievements do speak for themselves, fitting recognition was granted when Activity Leader Andres Steijaert was awarded the 2018 GÉANT Community Award for his impactful contribution to the GÉANT project and wider community activities over a sustained period of time. Working with limitless optimism and energy, but also great organisational and negotiating skills, Andres drove the cloud project from the initial concept to its current active state, and will continue as Work Package leader for GN4-3. Ambitious plans include tendering education-specific services, scaling up national community clouds from individual NREs to a pan-European GÉANT level and accelerating delivery and adoption.

We encourage you to stay tuned to the exciting developments in this area, as the R&E community continues to soar into the clouds to accelerate and fuel outstanding research and education.

To find out more information about the GÉANT Clouds activities visit: <https://clouds.geant.org>

Words
Maria Ristkok,
EENet